

## PATENT APPLICATION

10/070323

Express Mail Label No.: EV 040 167 644 US

## IN THE U.S. PATENT AND TRADEMARK OFFICE

March 1, 2002

Applicant(s) : Magnus CARLSSON et al.  
 For : METHOD FOR CONTROLLING A YARN PROCESSING  
 SYSTEM AND A YARN PROCESSING SYSTEM

PCT International Application No.: PCT/EP00/08565

PCT International Filing Date: September 1, 2000

U.S. Application No.

(if known, see 37 CFR 1.5) : Unknown

Atty. Docket No.: GKS Case 375

Box PCT  
 Assistant Commissioner for Patents  
 Washington, DC 20231

## PRELIMINARY AMENDMENT CANCELLING CLAIMS

Sir:

Prior to calculation of the filing fee in the above-identified application, kindly enter the following:

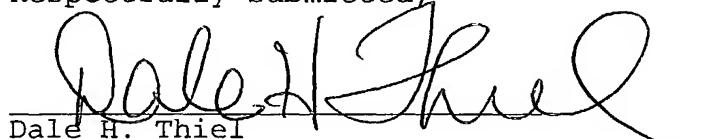
## IN THE CLAIMS

Kindly cancel Claims 2-22, without prejudice.

## REMARKS

This amendment cancels claim(s) to reduce the filing fee.  
 Please enter this amendment before calculating the filing fee.

Respectfully submitted,



Dale H. Thiel

DHT/jp

FLYNN, THIEL, BOUTELL & TANIS, P.C. 2026 Rambling Road Kalamazoo, MI 49008-1699 Phone: (616) 381-1156 Fax: (616) 381-5465	Dale H. Thiel David G. Boutell Ronald J. Tanis Terryence F. Chapman Mark L. Maki David S. Goldenberg Sidney B. Williams, Jr. Liane L. Churney Brian R. Tumm Tricia R. Cobb	Reg. No. 24 323 Reg. No. 25 072 Reg. No. 22 724 Reg. No. 32 549 Reg. No. 36 589 Reg. No. 31 257 Reg. No. 24 949 Reg. No. 40 694 Reg. No. 36 328 Reg. No. 44 621
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Encl: None

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AMENDMENT BEFORE FIRST OFFICE ACTION

Sir:

Prior to the issuance of the first Office Action in the above-identified application, kindly enter the following:

IN THE CLAIMS

Please cancel Claim 1, without prejudice.

Please add the following claims:

23. (New) Method for controlling a yarn processing system comprising a yarn consuming textile machine, a yarn feeding device upstream of the textile machine, and a supply spool upstream of the yarn feeding device, said yarn feeding device pulling off a yarn from said supply spool with varying speed to form and maintain a yarn intermediate store by means of a controlled winding drive in said yarn feeding device which yarn intermediate store serves to cover the yarn consumption demand of the textile machine at any time, wherein the rotational resistance of the supply spool which has to be overcome by the winding drive when releasing the yarn from the supply spool is actively regulated substantially in synchronism with controlled speed variations of said winding drive.

24. (New) Method as in Claim 23, wherein the yarn tension is detected and the rotational resistance of the

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supply spool is regulated according to a set reference yarn tension.

25. (New) Method as in Claim 23, wherein the rotational resistance of said supply spool which is to be overcome by said winding drive is regulated by actively driving said supply spool in conveying direction, preferably only partially.

26. (New) Method as in Claim 23, wherein said rotational resistance of said supply spool is increased by active braking of the supply spool to its stand still condition when said winding drive is switched off.

27. (New) Method as in Claim 26, wherein the switched off winding drive is stopped via the yarn by the braking of the supply spool.

28. (New) Method as in Claim 23, wherein an actuation current for said winding drive in said yarn feeding device is controlled with the help of yarn sensor signals monitoring a predetermined size range of said yarn store in said yarn feeding device, and said rotational resistance of a spool body of said supply spool is regulated on the basis of said yarn sensor signals or on the basis of run or stop signals representing said actuation current.

29. (New) Method as in Claim 23, wherein the rotational resistance of said supply spool is varied between a free running condition and a complete stand still condition, and to achieve the stand still condition of said supply spool said rotational resistance is increased on the basis of a yarn sensor signal or said stop signal or a currentless condition of said drive motor, respectively, each representing a winding drive stop.

30. (New) Method as in Claim 29, wherein said rotational resistance of said supply spool is increased with an adjustable delay in relation to the occurrence of said yarn

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sensor signal or said stop signal, respectively, or along a selected ramp function.

31. (New) Method as in Claim 23, wherein said rotational resistance of said supply spool is decreased at the occurrence of said yarn sensor signal or said run signal for accelerating the winding drive, or earlier.

32. (New) Yarn processing system, including a yarn consuming textile machine, a yarn feeding device provided upstream of said textile machine, and supply spool provided upstream of said yarn feeding device, which supply spool being rotatably positioned relative to said yarn feeding device for a tangential yarn release and which is rotatable by the yarn tension generated during the yarn release by a winding drive of the yarn feeding device, said winding drive being monitored by a control device for the formation of a yarn store by releasing said yarn from said supply spool, which yarn store is covering the consumption but varies depending on the consumption, wherein a device for varying the yarn releasing rotational resistance of said supply spool, is associated to said supply spool.

33. (New) Yarn processing system as in Claim 32, wherein said device includes a slip rotational drive for said supply spool which slip rotational drive is adjustable between a conveying operation mode generating lower driving torque than the torque generated at said supply spool by said yarn tension, and a braking operation mode, preferably to generate a braking torque sufficient to stop said supply spool by said braked yarn.

34. (New) Yarn processing system as in Claim 32, wherein said device is a braking device of said supply spool which braking device can be engaged and disengaged in controlled fashion.

35. (New) Yarn processing system as in Claim 34, wherein a yarn sensor is provided in said yarn feeding device

for monitoring at least the maximum size of said yarn store and for generating signals, said yarn sensor co-operating with said control device of said winding drive for switching off the actuation current of the drive motor, and said braking device is at least engageable upon occurrence of the signals of said maximum yarn sensor or upon occurrence of a stop signal for said drive motor.

36. (New) Yarn processing system as in Claim 35, wherein a yarn sensor is provided in said yarn feeding device for monitoring a minimum size of said yarn store, which yarn sensor co-operates with said control device for controlling the actuation current of the drive motor of said winding drive, and said braking device is disengageable upon occurrence of the signals of said minimum size yarn sensor or of the run signal for the motor, respectively.

37. (New) Yarn processing system as in Claim 35, wherein said braking device is engageable with an adjustable delay in relation to the occurrence of the signal of the maximum size yarn sensor or of said stop signal for the drive motor.

38. (New) Yarn processing system as in Claim 35, wherein said braking device comprises a friction element acting on a braking element of said supply spool, which friction element is adjustable by a controlled driving device, between engagement and disengagement or release positions, preferably by a pneumatic cylinder or a spring accumulator cylinder.

39. (New) Yarn processing system as in Claim 35, wherein said run signal or stop signal is detected at said yarn feeding device in a countless fashion and without a galvanic connection by means of an external pick-up head.

40. (New) Yarn processing system as in Claim 36, wherein said run signal or stop signal is detected at said

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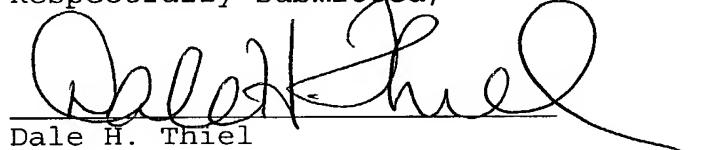
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yarn feeding device in a countless fashion and without a galvanic connection by means of an external pick-up head.

REMARKS

This Amendment Before First Office Action is submitted in order to place the claims in better condition for examination and to conform the claims to the claims as amended at the PCT level.

Respectfully submitted,



Dale H. Thiel

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Brian R. Tumm	Reg. No. 36 328
Tricia R. Cobb	Reg. No. 44 621

Encl: None

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